

## Remarks

### A. Introduction

Claims 1-2, 4-5, 7-11, and 14-17 remain pending in the application, with claims 9-11 having been withdrawn as directed to a non-elected invention. The Examiner newly rejected (1) claims 1-2, 5, 7-8, and 14-17 under 35 U.S.C. § 103(a) as obvious in view of combined disclosures of U.S. Patent Application Publication No. 2004/0069708 of Laurell, *et al.* and International Patent Application Publication No. WO 98/50133 of Coakley, *et al.*, (2) claim 4 under section 103(a) as obvious in view of combined disclosures of the Laurell and Coakley applications and U.S. Patent No. 4,743,361 to Schram, and (3) claims 15-17 under 35 U.S.C. § 112 as purportedly “failing to comply with the written description requirement.” See Office Action at p. 2. Applicants disagree with these rejections and request they be withdrawn.

### B. Section 112 Rejection

According to the Examiner, claim 15 supposedly adds “new matter” by referring to “only” one transducer as part of the means capable of generating a stationary standing sound wave. See id. at p. 3. Clearly, though, this structure of claim 15 is entirely consistent with an embodiment of the invention described and illustrated in the application. Indeed, page 8, lines 24-25 of the application unequivocally refer to “*a*” *transducer 19* rather than, for example, a “plurality” or “multiplicity” of transducers. Likewise, Fig. 1 of the application--expressly described as providing a schematic view “of one embodiment of the apparatus and method of the present invention”--*undeniably illustrates solely one transducer 19 as part of*

*that embodiment of the invention.* For the Examiner to contend that the application fails to disclose use of only one transducer 19 is thus illogical.

Nor is the Examiner's contention supported by law. In particular, *literal* support in the specification is *not* required for compliance with section 112. Instead, the disclosure need merely "reasonably convey" the claimed information to the artisan. Moreover, "[t]he content of the drawings may also be considered in determining compliance with the written description requirement." See, e.g., In re Kaslow, 707 F.2d, 1366, 1375 (Fed. Cir. 1983); see also Fujukawa v. Wattanasin, 93 F.3d 1559, 1570 (Fed. Cir. 1996) ("*ipsis verbis* disclosure is not necessary to satisfy the written description requirement of section 112").

Hence, for example, the Court in In re Wright, 866 F.2d 422, 425 (Fed. Cir. 1989) upheld an applicant's compliance with section 112 in amending a claim to specify that a certain free-flowing powder be "distributed upon [a] support *but not permanently affixed thereto*"--even though the specification did *not* include this phrase. As long as the specification disclosed the absence of permanent affixation, stated the Wright court, it provided adequate written description for the claimed phrase. See id. Similarly, the Court of Appeals for the Federal Circuit approved a claim amendment reciting that adhesive material be "the *sole* means for adhering" a plate to a tie, even though the specification identified *both* adhesive and clamps. See Pandrol USA, LP v. Airboss Railway Products, Inc., 424 F.3d 1161, 1167 (Fed. Cir. 2005). Adhesive was *depicted* in the drawings of the application, noted the Pandrol court, and the specification *authorized* use of adhesive to bond the plate and tie. See id., 424 F.3d at 1165-66. Such is undeniably the case here, where the version of the

invention shown in Fig. 1 of the application *depicts* one transducer 19 and the specification *authorizes* use of as few as one transducer. Applicants accordingly request that the Examiner's rejection of claims 15-17 under section 112 be withdrawn.

### C. Section 103(a) Rejections

#### 1. *Independent Claim 1*

Recited in claim 1 is an apparatus for moving particles entrained in a first fluid to a second fluid. The apparatus comprises "means capable of generating a stationary standing sound wave having a pressure node disposed within the conduit." This means, in turn, comprises

- the first wall of the conduit configured to generate and transmit a sound wave; and
- the second opposite wall of the conduit adapted to reflect the generated sound wave.

Although the Examiner contends this subject matter is obvious in view of combined disclosures of the Laurell and Coakley applications, Applicants disagree.

Disclosed in the Laurell application are channels (arguably "conduits") and a piezoelectric element 53 contended by the Examiner to generate standing waves. See Laurell, p. 5, ¶ 0088; see also id., p. 4, ¶¶ 0072-0074. Clear from Fig. 8 of the Laurell application is that element 53 is on one side of plate 51, whereas the channels are formed *on the other side* of the plate. Consequently, *no wall of any channel* is configured to generate and transmit a sound wave, contrary to the Examiner's contention.

Additionally, the Examiner is incorrect in asserting that “the [channel] wall opposite the transducer [of the Laurell application] is considered to reflect the generated sound wave.” See Office Action at p. 5. To the contrary, the “wall,” or surface, identified by the Examiner is part of the plate rather than of any channel. See Laurell, p. 4, ¶ 0072. Moreover, it is “the ultrasonic source that is arranged in close contact to an opposing surface of the plate”--and **not** the opposing surface that is capable of reflecting. Thus, neither the opposing surface of the channel **nor** the opposing surface of the plate of the Laurell application is adapted to reflect a generated wave.

Indeed, clear from the preceding discussion is that the Laurell application teaches advantages of **not** having the ultrasonic wave source as part of either the channels or the plate. According to the Laurell application, it is of “**great importance**” that the wave source **not** “be a part of a plate layer where the channels reside” so as to increase the space available for incorporating more channels. See id., ¶ 0075. The Laurell application thus teaches away from the idea of adapting the first wall of a channel or conduit to generate and transmit a standing wave. No motivation whatsoever hence exists to make this adaptation, even assuming (but not conceding) it is theoretically possible based on the disclosure of the Coakley application.\*

### 3. Claim 14

Applicants note the Examiner’s tortured interpretation of the Laurell application in connection with claim 14. Because Applicants intended the structure

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\*All of these arguments apply equally to at least claims 7 and 16-17, as the Laurell application neither discloses nor suggests including a piezoceramic material or other transducer in or as part of the first wall of the conduit.

recited in the claim to differ from that described by the Examiner, they have clarified claim 14 to note that “the second inlet and the second outlet **contact** the first wall.” See Application at p. 9, ll. 11-15 (“The suspension passes from the second inlet in contact with the first wall 12 through the channel 14 to the second outlet 18.”); see also id., Fig. 1. This clarification clearly distinguishes the configuration of the Laurell application identified by the Examiner, providing additional basis for allowance of claim 14.

### Conclusion

Applicants request that the Examiner allow claims 1-2, 4-5, 7-8, and 14-17 and that a patent containing these claims issue in due course.

Respectfully submitted,

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